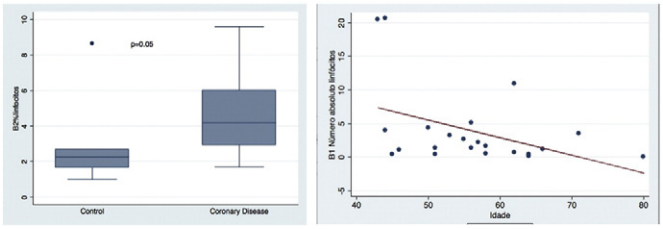
with stable coronary disease (documented by coronary angiography, n = 7); and healthy controls (n = 7), matched by age and sex. B1 cells were characterized by CD20+CD27+CD43+CD70− and B2 cells were identified by CD19+CD23+;both by flow-cytometry. Results: B2 cells were more prevalent among CAD subjects (AMI and stable CHD; n = 14) than controls (p = 0.05). In addition, negative correlation was observed among B1 cells and age (p = 0.05). Conclusion: Preliminary data suggest that there is a subtype of lymphocytes in humans (B1) that are negatively correlated with age. An imbalance between B1 and B2 cells emerges as important aspect of immune responses and possible new target for the prevention or treatment of atherosclerosis.



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A40900

Dietary modifications and reducing cardiovascular risk in obese patients

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Introduction: Obesity is characterized by systemic inflammation, and risk factor for high blood pressure and elevated serum triglycerides and cholesterol, potential causes of atherosclerotic plaques. Therefore, the feed reeducation it is necessary to healthy weight loss and reduced cardiovascular risk factors. Methods: 40 obese patients were followed (BMI > 30 kg/m^2) with other risk factors such as hypertension, dyslipidemia and/or resistance to insulin, for 6 months, with proposed multidisciplinary care, reduced calorie diet, guidance on physical activity and emotional health. The results are stored to build a database using the Excel ® 2010 and SPSS 16.0. for comparison between pre- and post-test was used for statistical inference using the paired t test. The minimum level of significance was set at p < 0.05. Result: The report of habitual food intake pre and post monitoring revealed a significant decrease in food consumption that offers cardiovascular risk, such as sausages, processed and canned for example. These dietary changes were expressed as a reduction in sodium consumption for 3321.99 mg 1472.95 mg (p = 0.000) and saturated fats 9.88% to 6.13% (p = 0.000). An increase in the consumption of cardioprotective foods such as fruits, vegetables and whole grains such as oats and flaxseed was also observed, reflecting a dietary fiber increase of 13.37 g to 24.97 g (p = 0.000). An average weight reduction of 5.9% and a waist circumference reduction of 5.2% (p = 0.000) have been observed. Conclusion: The methodology used in nutritional education was effective in encouraging dietary changes and adoption of healthy living habits, positively impacting the reduction of cardiovascular risk.

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A40901

Clinical case study: Effectiveness of a multidisciplinary program in metabolic disorders reduction

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Introduction: Obesity is characterized by excess of body fat, able to harm the health of the individuals, favoring the onset of diseases such as cardiovascular diseases. Actions used at stimulating lifestyle change, has proven effective tools for weight reduction with consequent reduction of risk factors. Objective: The Obesity Zero Program aims to promote weight loss and waist circumference, greater than or equal to 10%, of obese patients treated at the nutrition clinic of a Cardiology Institute of the State of São Paulo. Report: female patient, 44, housewife, completed elementary school, married, a native of Goiania, coming from Embu, SP. Referred to the nutrition clinic for treatment of obesity, hypertension and dyslipidemia. Clinical history: the first visit to the nutrition clinic was in December 2012. The patient was diagnosed with severe obesity, according to the weight 121.9 kg, BMI of 45.48 kg/m^2 and abdominal circumference of 125 cm, high blood pressure systemic and dyslipidemia, making use of antihypertensive, diuretic and anticoagulant, with biochemical changes in total cholesterol (201 mg/dL) and LDL-C (132 mg/dL). She received low-calorie, diet low in saturated fat and sodium, high in fiber and monounsaturated fats, and was referred to a multidisciplinary group for nutritional education and change in lifestyle, consisting of 12 biweekly meetings for six months, starting in March 2013. Results: At the end of follow-up, the patient was down 31.2 kg, which represented 25.5% of initial weight, reduced waist circumference of 14 cm, lower cholesterol levels Total (174 mg/dL) and LDL-C (112 mg/dL), also reported an improvement in their physical and mental performance and their self-esteem. Conclusion: The proposed weight-loss program was effective and provided great benefits to the health of the patient, proved to be effective in reducing weight and improvement in lipid profile, assisting in the treatment of metabolic disorders and contributing to the prevention of cardiovascular disease.

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A40929

Association between neck circumference and subclinical atherosclerosis — Longitudinal Study of Adult Health (ELSA-Brasil)

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Background: Fat in the neck has been hypothesized as a locally acting fat depot that could contribute to vascular damage through a paracrine effect. We aimed to analyze the association between neck circumference (NC) and subclinical atherosclerosis measures by coronary artery calcium (CAC) and carotid intima–media thickness (IMT) in the ELSA-Brasil. Methods: In cross-sectional and sex-specific analysis 2308 women (50,6 ± 8,4 yrs) and 1924 men (50,6 ± 8,4 yrs) with high quality images acquired on IMT and CAC, free from previous coronary heart disease at baseline of ELSA-Brasil were included. Binary logistic models were built using diverse cut-off points for CAC score (0 vs >0, <100 vs ≥100, <400 vs ≥400) and IMT (<75th percentile vs ≥75 th; <90th percentile vs ≥90 th) as dependent variables for 1-sd increase in NC. Subsequent adjustments

were made to test NC's independence from traditional risk factors as age, hypertension, diabetes, dyslipidemia, smoking, race and body-mass index. Results: Mean NC was 33.6 (±2.4 cm) and 38.8 (±2.6 cm), respectively for women and men. Mean NC was significantly larger in participants above the 75th and 90 th IMT percentile ($p < 0.001$ for both). Fully adjusted models showed significant OR (95% CI) above the 75th IMT percentile [1.40 (1.19; 1.65)] and [1.10 (1.08; 1.11)] for women and men respectively and above the 90th IMT percentile [1.39 (1.12; 1.72)] and [1.39 (1.08; 1.79)] for women and men respectively. We found no differences between mean NC and CAC cut-off points ($p > 0.05$ for all) and no significant association for CAC per 1-sd NC in both sexes. Conclusion: Neck circumference was significantly and independently associated with IMT but not with CAC in women and men. These findings could be suggestive of a local effect of neck fat depot on subclinical atherosclerosis in the ELSA-Brasil.

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A40938

Using Ordinal Logit to estimate the probability of a person to belong to a specific cholesterol level range according to the site of the sample collection

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Introduction: Comparison among groups according to biochemical parameters are frequently difficult to test by most of the statistical calculations used more frequently in biosciences. Objectives: Comparison of three different groups of individuals according to both their Total Cholesterol (TC) ranges and their sites of blood sampling by using special statistics tests. Methods: Samples: three groups of adult volunteers, both sexes, whose blood samples were collected in the sites: Ibirapuera (SP), Paraty (RJ) and Convention Center (CC). Their sizes were, respectively, for SP, RJ and CC: 390, 296 and 229 individuals. TC was assayed by Point of Care technique in mg/dL(CardioChekPA). TC ranges were:$x \leq 200$,$200 > x < 240$ and $x \geq 240$.Statistical analysis were performed using Chi Square(X^2), Distribution Modeling and Ordinal Logit calculations. Results: X^2 analysis showed significant differences among the sites of blood collection($X^2 = 28.66$,$df = 4$, $p = 9.16$). As X^2 is not directional, differences in distributions were modeled in the three site categories($Sj = B^*Site + uj$). Ordinal Logit results as to probability of TC being <200 were, respectively, for SP, RJ and CC: 0.57, 0.47 and 0.69; all of them significant, which means that: responders from RJ have a higher probability of having TC > 200 as compared to SP with the latter the same as with the ones from the CC. Discussion: For the purpose of the proposed TC comparisons, differences were found, in accordance with the understanding that Ordinal Logit is a regression where the dependent variable is categorical and represented by more than one value. As a result of the regression the effects of the independent variables can be assessed and in these data, as the sites. In order to be able to apply Ordinal Logit data had to be tested first as to significant differences and to categories distribution modeling. Conclusion: A statistical model for differentiating TC categories according to sites of assaying using subsequently X^2, Distribution Modeling and Ordinal Logit proved to have efficacy and can be proposed as an additional way of bioclinical parameter comparisons.

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A40953

Association between periodontitis and hypertension on the atherogenic process: An integrative review

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Introduction: Atherosclerosis is responsible for millions of deaths around the world, and various risk factors directly affect the predisposition to the disease, among which are hypertension (H) and periodontitis (P). Methods: Integrative review on the data bases PubMed, Medline and Lilacs, seeking to answer to the following question: "What is the contribution of the association between periodontitis and H for the development or worsening of atherosclerosis?". Medical Subject Headings (MeSH) controlled descriptors used: periodontitis, hypertension, atherosclerosis, with the Boolean operator "AND" in various combinations. As inclusion criteria, articles from English, Portuguese and Spanish journals, with fully available texts, from 2004 to 2014 and with studies carried out with adults were adopted. The subject identification and hypotheses selection, inclusion criteria, categorization of the articles, evaluation of the studies, interpretation of the results and knowledge synthesis phases were carried out. Results: Twenty results were found, of which only seven contemplated the proposed aspects in this review, all in English. As for the levels of evidence (LE) found, the most prevailing was LE IV, with four articles (57%), followed by LE V, with two articles (28%), and one article with LE VI (15%). Although H is a possible risk factor which may cause confusion when evaluated the association between periodontitis and atherosclerosis, data obtained from cross-sectional studies suggest that, in hypertensive individuals, periodontitis may strengthen the atherogenic process, increasing the risk and the level of lesion of the target organ. Higher associations of severe periodintitis with H or with the increase of pressure values, specially regarding the diastolic blood pressure (DBP), were also found as being contributing factors for the atherogenic process and consequent increase of cardiovascular risk, after carried out an adjustment of traditional risk factors for atherosclerosis. Another study evinced that high serum levels of anti-cardiolipin antibodies in hypertensive individuals may be caused by chronic periodontitis, increasing the risk for atherosclerosis in such individuals. Conclusion: The association between P and H, specially the chronic P, contributes for the increase of the risk of atherosclerotic cardiovascular disease; however, studies in this area are still recent and scarce.

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A40960

Infrared thermography cutaneous in the evaluation of atherosclerosis

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Background: Stroke maintains relationship with endothelial dysfunction. The cutaneous thermography, whose property is to assess the infrared radiation emitted, has ability to measure minimal temperature differences in the skin tissue, allowing the study of the vascular physiology. Objective: The aim of this study is to assess whether infrared thermography is capable of evaluating the stroke risk, using the phenomenon of ischemia–reperfusion as endothelial